UNIVERSITY OF VIRGINIA CENTER FOR PUBLIC SERVICE

BUSINESS AND ECONOMICS SECTION • 2015 IVY ROAD • CHARLOTTESVILLE, VIRGINIA 22903

Virginia Annual Gross State Product, 1958-1986

Robert W. Cox

This report presents estimates of Virginia gross state product (GSP) over the 1958-1986 period. Latest in an annual series, this report provides information for 1986 and revisions for previous years.

Gross state product is the term applied to the value of all final goods and services produced in a state in a given year.[1] For purposes of comparison, one can assume GSP to be the state's equivalent of gross national product (GNP). However, since data are lacking for all income earned by Virginia residents outside the state, and for all income earned within Virginia by nonresidents, GSP more closely resembles the gross domestic product (GDP), a measure of output produced within the boundaries of the nation. Since GNP and GDP are nearly identical in the United States, gross state product is usually compared to GNP.[2]

Virginia gross state product in current dollars (unadjusted for inflation) rose to almost $104 billion in 1986 (see Table 1), which showed a rise of about $8.3 billion over 1985. In the 1958-1986 period, GSP increased at an annual rate of 9.5 percent.[3] During this same period, GNP rose by an annual average of 8.4 percent. From 1985 to 1986, GSP grew 8.7 percent, greater than the 5.6 percent rise in GNP.

Virginia GSP in constant 1982 dollars (gross state product converted to a constant purchasing power based on 1982 dollars) grew from $29.2 billion in 1958 to $90.9 billion in 1986 (see Table 2). This represented an average annual growth of 3.8 percent over the period (see Figure 1). GNP increased by an average of 3.0 percent over the same period. Except for the recessions of 1969-1970 and 1974-1975, Virginia experienced no declines. From 1985 to 1986 real GSP grew 6.6 percent, more than double the 2.9 percent rise in real GNP.

Virginia's current dollar GSP as a percent of GNP is shown in Figure 2. When the rate of growth of GSP exceeds that of GNP, Virginia's share of GNP increases. Since 1958, the percentage has grown from 1.81 percent to 2.45 percent in 1986. The figure has risen rapidly in recent years.

---

[1]Some confusion may arise in the reader's mind as to what constitutes "final goods and services." In this report, final goods and services refer to all products that are not used as inputs for other products and to all products exported outside the state.

[2]John W. Kendrick and C. Milton Jaycox, "The Concept and Estimation of Gross State Product," *The Southern Economic Journal* 32 (October 1965), pp. 154-155. In 1985, gross domestic product was 99.0 percent of GNP.

[3]All growth rates were computed using the least squares method.

Figure 1.
Virginia Gross State Product, 1958-1986 (billions of 1982 constant dollars)

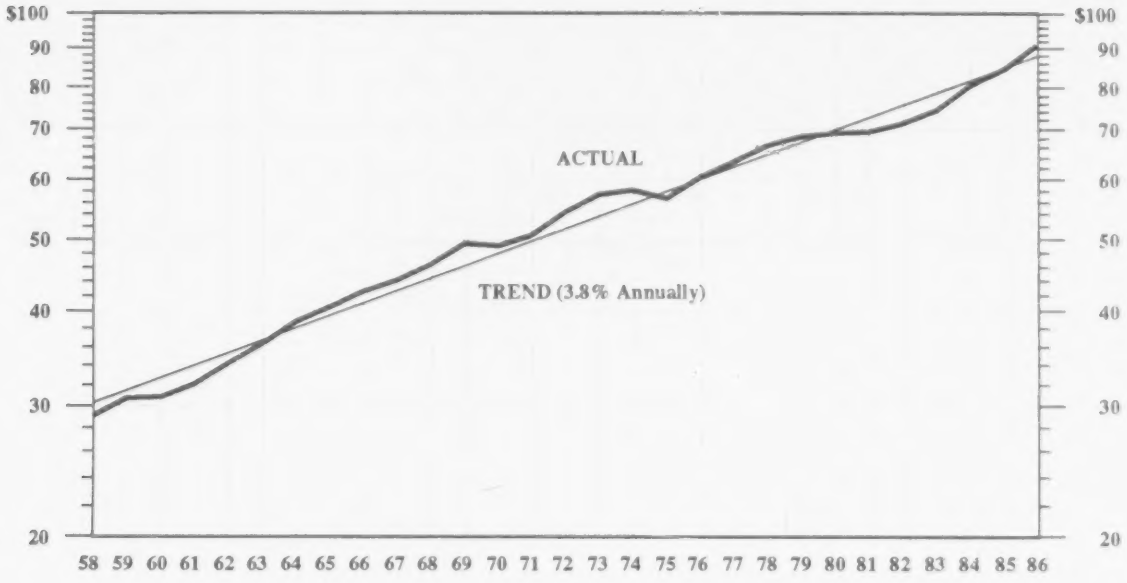
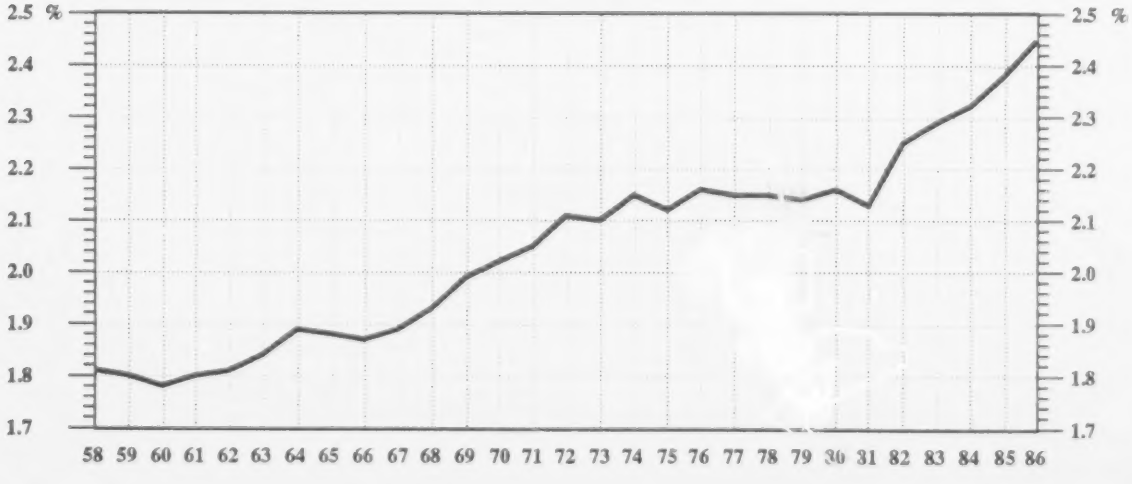
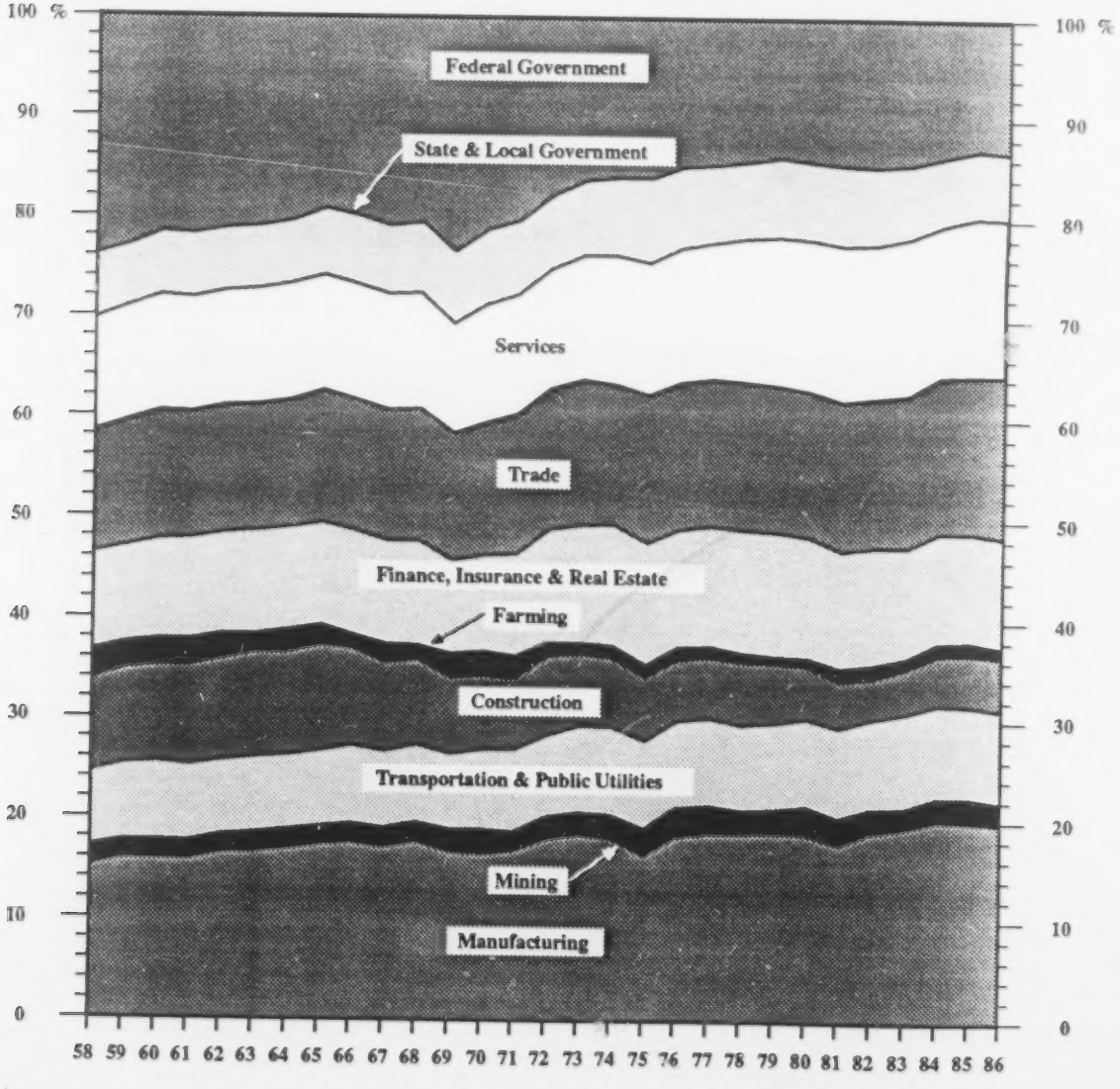


Figure 2.
Virginia GSP as a Percent of GNP, 1958-1986 (current dollars)



The changes in industrial shares of GSP based on constant 1982 dollars provide a good picture of how Virginia's economy has changed over the 1958-86 period (see Figure 3). Finance, insurance and real estate, state and local government, and mining have maintained a more or less constant share of GSP. Construction, farming, and the federal government have not grown as fast as the overall state economy and have claimed smaller shares. The relative standing of the federal government has shrunk in the post Vietnam War era. The sectors that have risen the most include manufacturing, services, wholesale and retail trade, and transportation and public utilities.

Figure 3.
Industrial Shares of Virginia GSP, 1958-1986 (constant 1982 dollars)



The changes in Virginia's economy in most instances mirror the long-term changes in the U.S. economy. The increase in manufacturing's share, despite all the talk of a "service economy," should not be surprising. Output figures for manufacturing are heavily affected by the productivity of labor. In the long run, productivity in manufacturing has been rising faster than it has in the services sectors. Furthermore, Virginia has benefited from the relocation of manufacturing activity from the northeast and midwest to the south. For mining, a sector that includes oil and gas extraction, the concentration of coal mining in the Virginia figure has kept that share from falling as it has nationally because of declining production of oil and gas.

When 1986 industrial shares of GSP are viewed in terms of current dollars, the positions remain basically unchanged. Manufacturing, services, wholesale and retail trade, the federal government, and finance, insurance, and real estate have the largest shares. Construction, farming, state and local government, mining, and transportation and public utilities each account for less than 10 percent of GSP.

Per capita gross state product in current dollars stood at $17,933 in 1986, 102.1 percent of per capita GNP (see Table 4). Virginia per capita GSP as a percent of the U.S. has been rising constantly since 1981, and since 1958 is up from 80.3 percent. Measured in 1982 dollars, Virginia per capita GSP is 102.0 percent of the U.S. figure.

Gross farm product, a component of Virginia gross state product, is derived from the U.S. Department of Agriculture's state farm income statistics for Virginia. This is accomplished by subtracting intermediate production expenses from the value of total farm output. Government payments are omitted from the value of farm output. In addition, farm wages are not included as production expenses and therefore are considered part of gross state product. The following table illustrates the computation of Virginia gross farm product for 1986 (current dollars).

Value from total farm output (millions of dollars)	Cash receipts from marketing	$1,626.7
	Nonmonetary income	296.8
	Other farm income	99.4
	Net changes in inventories	-40.8
	Subtotal	1,982.1
Less intermediate production expenses	Feed	288.6
	Livestock purchased	56.7
	Seed, plants, and bulbs	30.5
	Fertilizer and lime	82.1
	Repairs/operation of capital items	186.3
	Miscellaneous operating expenses	312.8
	Subtotal	957.0
Gross farm product		1,025.1

A detailed statement of the methodology used for all industrial sectors is available upon request.

Table 1.
Virginia Gross State Product in Current Dollars, 1958-1986 (millions of dollars)

Year	Total	Construction	Farming	Finance Insurance and Real Estate	Federal Government	State and Local Government	Manufacturing	Mining	Services[a]	Trade	Transportation and Public Utilities
1958	$8,249.7	$395.7	$382.6	$950.6	$1,308.2	$425.4	$1,842.9	$117.1	$843.3	$1,185.5	$798.3
1959	8,933.9	429.9	326.9	1,024.5	1,400.9	453.4	2,072.4	119.3	926.7	1,313.8	866.1
1960	9,155.7	441.0	331.0	1,085.8	1,341.5	494.8	2,113.5	118.1	975.4	1,355.7	899.0
1961	9,594.2	489.0	353.4	1,147.6	1,410.2	536.5	2,183.2	120.0	1,027.2	1,411.1	915.9
1962	10,391.3	546.9	353.5	1,234.4	1,494.4	593.5	2,427.1	121.5	1,123.8	1,524.4	971.8
1963	11,175.4	627.6	269.9	1,363.5	1,685.4	647.4	2,562.4	135.4	1,230.0	1,616.9	1,036.8
1964	12,304.0	688.2	355.2	1,461.8	1,863.7	721.9	2,803.5	151.1	1,358.3	1,795.3	1,104.9
1965	13,250.8	768.3	353.6	1,581.8	1,929.6	804.9	3,051.5	147.5	1,468.0	1,953.5	1,192.2
1966	14,415.1	812.5	306.9	1,725.9	2,197.0	919.3	3,304.2	162.3	1,607.2	2,095.1	1,284.7
1967	15,460.1	817.6	355.6	1,848.0	2,488.5	1,021.4	3,403.7	168.5	1,748.8	2,252.6	1,355.3
1968	17,222.9	898.1	337.3	2,012.1	2,838.1	1,197.3	3,854.7	178.6	1,934.1	2,510.8	1,462.0
1969	19,217.4	996.7	373.8	2,183.0	3,674.2	1,380.4	3,981.6	204.9	2,104.9	2,750.8	1,567.2
1970	20,510.9	1,100.6	386.5	2,375.4	3,745.7	1,556.8	4,059.4	287.9	2,326.8	2,956.8	1,715.0
1971	22,512.3	1,239.7	383.9	2,676.7	4,072.3	1,686.0	4,387.1	271.2	2,597.6	3,296.5	1,901.2
1972	25,550.2	1,600.9	468.2	2,998.0	4,379.3	1,883.1	5,102.7	322.3	2,936.1	3,708.4	2,151.0
1973	28,563.9	1,710.1	623.2	3,454.4	4,499.4	2,203.0	5,595.3	383.4	3,418.4	4,262.9	2,413.9
1974	31,633.7	1,863.6	627.0	3,783.8	4,880.6	2,484.1	6,059.5	760.9	3,874.1	4,667.8	2,632.3
1975	33,885.0	1,869.3	604.6	3,914.5	5,235.2	2,839.8	6,126.7	898.9	4,306.2	5,224.0	2,865.8
1976	38,445.1	2,050.4	604.4	4,320.2	5,682.1	3,141.9	7,573.0	998.1	5,005.7	5,788.3	3,281.0
1977	42,875.6	2,308.5	564.2	5,078.3	6,136.6	3,381.2	8,575.9	1,060.7	5,693.8	6,411.3	3,665.0
1978	48,375.0	2,715.8	724.0	5,953.2	6,721.1	3,774.2	9,486.7	1,022.4	6,690.0	7,244.9	4,042.6
1979	53,645.7	3,122.0	694.4	6,617.9	7,262.9	4,166.8	10,397.9	1,140.8	7,791.9	8,098.7	4,352.4
1980	59,071.2	3,174.8	628.0	7,076.7	8,106.4	4,610.9	11,364.0	1,589.4	8,846.0	8,724.0	4,951.0
1981	65,007.4	3,018.6	1,001.0	7,682.9	9,379.8	5,077.1	11,728.4	1,769.5	9,882.1	9,746.6	5,721.4
1982	71,220.9	3,016.8	892.5	8,341.9	10,504.7	5,490.2	13,521.9	1,661.6	10,959.9	10,454.5	6,376.9
1983	77,817.1	3,483.7	707.5	9,072.2	11,188.5	5,898.6	14,683.8	1,484.2	12,351.5	11,524.5	7,422.6
1984	87,503.7	4,208.8	1,112.9	9,947.8	12,098.8	6,302.4	16,587.0	1,604.7	13,879.0	13,234.3	8,528.1
1985	95,441.6	4,926.7	990.8	10,991.4	12,957.6	6,931.2	17,346.5	1,725.7	15,790.6	14,514.4	9,266.8
1986	103,779.0	5,735.8	1,025.1	12,490.8	13,415.4	7,702.2	18,339.7	1,633.2	17,458.8	16,017.1	9,961.0

Sources: **Earnings**: U.S. Department of Commerce, Bureau of Economic Analysis, *State Personal Income: 1929-82* (Washington, D.C.: GPO, 1984), pp. 32-33, 192-193 (Table 8); U.S. Dept. of Commerce, BEA, "Personal Income by Major Source and Earnings by Industry" (computer printout, 1987). **Gross National Product:** U.S. Dept. of Commerce, BEA, unpublished data, July 29, 1987. **Manufacturing Adjustment**: U.S. Dept. of Commerce, Bureau of the Census, *1982 Census of Manufacturers*, Subject Series, General Summary (Washington, D.C.: GPO, 1986), pp. 130-132; U.S. Dept. of Commerce, Bureau of the Census, *Annual Survey of Manufactures* (selected editions). **Agriculture**: U.S. Dept. of Agriculture, Economic Research Service, *Economic Indicators of the Farm Sector, State Income, and Balance Sheet Statistics, 1986* (Washington, D.C.: GPO, 1987); unpublished revisions and historical cost figures from the U.S. Dept. of Agriculture, Economic Research Service.

[a]Includes agric. services, forestry and fisheries, and "rest of the world," which includes operations of foreign governments, and international organizations in the United States.

Note: Details may not add to totals due to rounding.

Table 2.
Virginia Gross State Product in Constant Dollars, 1958-1986 (millions of 1982 dollars)

Year	Total	Construction	Farming	Finance Insurance and Real Estate	Federal Government	State and Local Government	Manufacturing	Mining	Services[a]	Trade	Transportation and Public Utilities
1958	$29,207.2	$2,673.7	$862.2	$2,779.6	$6,958.3	$1,849.5	$4,495.0	$520.3	$3,314.4	$3,542.9	$2,211.4
1959	30,789.2	2,904.5	790.9	2,944.1	7,039.8	1,897.1	4,934.2	559.3	3,507.9	3,838.6	2,372.9
1960	30,912.5	2,959.8	795.1	3,075.8	6,641.1	1,979.2	4,961.2	559.1	3,584.9	3,926.5	2,429.8
1961	32,083.6	3,196.1	850.6	3,205.6	6,946.9	2,063.3	5,112.9	573.8	3,693.8	4,004.5	2,436.0
1962	34,096.5	3,483.4	817.0	3,419.4	7,184.4	2,174.1	5,631.3	607.1	3,916.7	4,312.3	2,550.7
1963	36,224.0	3,850.3	623.9	3,715.3	7,557.7	2,287.6	6,057.8	669.9	4,204.7	4,535.5	2,721.2
1964	38,754.7	4,048.5	862.7	3,908.5	7,863.7	2,480.7	6,627.8	696.0	4,511.4	4,900.3	2,855.1
1965	40,640.3	4,292.1	829.8	4,151.6	7,780.6	2,691.9	7,113.0	709.7	4,704.0	5,286.9	3,080.7
1966	42,657.2	4,166.6	620.3	4,380.3	8,450.1	2,918.5	7,561.2	774.8	4,918.7	5,547.0	3,319.6
1967	44,058.9	3,930.7	806.0	4,518.4	9,182.6	3,013.1	7,580.7	818.2	5,092.5	5,702.9	3,413.8
1968	46,320.1	3,921.7	707.0	4,756.6	9,460.3	3,307.4	8,254.1	874.9	5,331.0	6,079.3	3,627.7
1969	49,465.1	3,761.1	730.4	5,029.9	11,517.8	3,557.7	8,312.3	1,063.9	5,458.9	6,238.5	3,794.7
1970	49,000.5	3,596.7	743.7	5,220.7	10,375.9	3,689.2	8,151.4	1,136.4	5,709.6	6,425.4	3,951.6
1971	50,203.3	3,572.6	732.0	5,576.5	10,155.3	3,746.7	8,502.2	922.3	5,996.9	6,892.4	4,106.2
1972	53,987.7	4,235.2	773.6	6,020.1	9,582.7	3,931.4	9,794.0	1,163.9	6,461.4	7,571.9	4,453.5
1973	57,094.3	4,140.7	609.9	6,668.7	9,258.0	4,277.7	10,657.6	1,201.9	7,072.0	8,261.4	4,946.5
1974	58,200.1	4,060.2	741.0	6,981.2	9,243.5	4,549.7	10,593.5	1,407.9	7,438.1	8,113.0	5,071.9
1975	56,638.4	3,651.0	723.6	6,843.6	9,010.8	4,748.9	9,382.4	1,495.0	7,530.3	8,269.0	4,984.0
1976	60,329.5	3,762.2	691.0	7,082.4	8,948.2	4,863.7	11,104.0	1,744.7	8,105.9	8,769.4	5,258.1
1977	63,229.4	3,892.9	673.4	7,568.3	9,172.8	4,907.4	11,894.5	1,761.1	8,631.1	9,224.8	5,503.1
1978	66,304.0	4,152.6	661.0	8,077.7	9,413.3	5,128.0	12,499.0	1,460.6	9,446.5	9,739.4	5,726.1
1979	68,208.9	4,124.2	504.2	8,366.4	9,444.6	5,328.4	12,900.6	1,557.3	10,098.7	9,978.8	5,905.6
1980	69,028.0	3,726.3	549.7	8,200.1	9,778.5	5,431.0	13,017.2	1,896.8	10,423.8	9,974.2	6,030.4
1981	69,379.7	3,214.7	923.9	8,104.4	10,118.5	5,536.7	12,332.7	1,834.2	10,768.5	10,259.0	6,287.3
1982	71,220.9	3,016.8	892.5	8,341.9	10,504.7	5,490.2	13,521.9	1,661.6	10,959.9	10,454.5	6,376.9
1983	74,522.9	3,432.2	702.2	8,270.1	10,706.7	5,523.1	14,524.0	1,506.4	11,657.8	11,224.5	6,976.1
1984	80,681.9	3,907.9	1,001.0	8,795.6	10,890.0	5,533.3	16,293.7	1,754.4	12,326.8	12,468.5	7,710.7
1985	85,268.1	4,387.1	1,046.4	9,236.5	11,112.8	5,709.4	17,157.8	1,904.6	13,358.4	13,352.7	8,002.5
1986	90,885.8	4,877.4	950.2	9,905.5	11,999.5	5,980.0	18,068.6	1,909.0	14,186.5	14,652.6	8,356.5

Sources: The sources cited in Table 1; U.S. Department of Agriculture, Statistical Reporting Service, Crop Reporting Board, Agricultural Prices, 1986 Summary (Washington, D.C.: GPO, 1987); and selected earlier editions.

[a]Includes agric. services, forestry and fisheries, and "rest of the world," which includes operations of foreign governments, and international organizations in the United States.

Note: Details may not add to totals due to rounding.

Table 3.
Industrial Shares of Virginia Gross State Product, 1958-1986 (constant dollars)

Year	Construction	Farming	Finance Insurance and Real Estate	Federal Government	State and Local Government	Manufacturing	Mining	Services	Trade	Transportation and Public Utilities
1958	9.15%	2.95%	9.52%	23.82%	6.33%	15.39%	1.78%	11.35%	12.13%	7.57%
1959	9.43	2.57	9.56	22.86	6.16	16.03	1.82	11.39	12.47	7.71
1960	9.57	2.57	9.95	21.48	6.40	16.05	1.81	11.60	12.70	7.86
1961	9.96	2.65	9.99	21.65	6.43	15.94	1.79	11.51	12.48	7.59
1962	10.22	2.40	10.03	21.07	6.38	16.52	1.78	11.49	12.65	7.48
1963	10.63	1.72	10.26	20.86	6.32	16.72	1.85	11.61	12.52	7.51
1964	10.45	2.23	10.09	20.29	6.40	17.10	1.80	11.64	12.64	7.37
1965	10.56	2.04	10.22	19.15	6.62	17.50	1.75	11.57	13.01	7.58
1966	9.77	1.45	10.27	19.81	6.84	17.73	1.82	11.53	13.00	7.78
1967	8.92	1.83	10.26	20.84	6.84	17.21	1.86	11.56	12.94	7.75
1968	8.47	1.53	10.27	20.42	7.14	17.82	1.89	11.51	13.12	7.83
1969	7.60	1.48	10.17	23.28	7.19	16.80	2.15	11.04	12.61	7.67
1970	7.34	1.52	10.65	21.18	7.53	16.64	2.32	11.65	13.11	8.06
1971	7.12	1.46	11.11	20.23	7.46	16.94	1.84	11.95	13.73	8.18
1972	7.84	1.43	11.15	17.75	7.28	18.14	2.16	11.97	14.03	8.25
1973	7.25	1.07	11.68	16.22	7.49	18.67	2.11	12.39	14.47	8.66
1974	6.98	1.27	12.00	15.88	7.82	18.20	2.42	12.78	13.94	8.71
1975	6.45	1.28	12.08	15.91	8.38	16.57	2.64	13.30	14.60	8.80
1976	6.24	1.15	11.74	14.83	8.06	18.41	2.89	13.44	14.54	8.72
1977	6.16	1.07	11.97	14.51	7.76	18.81	2.79	13.65	14.59	8.70
1978	6.26	1.00	12.18	14.20	7.73	18.85	2.20	14.25	14.69	8.64
1979	6.05	0.74	12.27	13.85	7.81	18.91	2.28	14.81	14.63	8.66
1980	5.40	0.80	11.88	14.17	7.87	18.86	2.75	15.10	14.45	8.74
1981	4.63	1.33	11.68	14.58	7.98	17.78	2.64	15.52	14.79	9.06
1982	4.24	1.25	11.71	14.75	7.71	18.99	2.33	15.39	14.68	8.95
1983	4.61	0.94	11.10	14.37	7.41	19.49	2.02	15.64	15.06	9.36
1984	4.84	1.24	10.90	13.50	6.86	20.19	2.17	15.28	15.45	9.56
1985	5.15	1.23	10.83	13.03	6.70	20.12	2.23	15.67	15.66	9.39
1986	5.37	1.05	10.90	13.20	6.58	19.88	2.10	15.61	16.12	9.19

Source: The sources cited in Table 2.

Note: Details may not add to totals due to rounding.

Table 4.
Virginia GSP Per Capita and GNP Per Capita, 1958-1986
(current and 1982 constant dollars)

	Current Dollars			1982 Constant Dollars		
Year	Virginia Per Capita	U.S. Per Capita	Virginia as a % of U.S.	Virginia Per Capita	U.S. Per Capita	Virginia as a % of U.S.
1958	$2,107	$2,623	80.3%	$7,461	$8,839	84.4%
1959	2,261	2,799	80.8	7,793	9,198	84.7
1960	2,297	2,815	81.6	7,766	9,254	83.9
1961	2,343	2,867	81.7	7,834	9,339	83.9
1962	2,486	3,094	80.3	8,157	9,690	84.2
1963	2,613	3,167	82.5	8,471	9,942	85.2
1964	2,824	3,338	84.6	8,894	10,328	86.1
1965	3,004	3,645	82.4	9,213	10,791	85.4
1966	3,235	3,949	81.9	9,573	11,297	84.7
1967	3,429	4,137	82.9	9,773	11,509	84.9
1968	3,779	4,479	84.4	10,162	11,870	85.6
1969	4,165	4,789	87.0	10,721	12,038	89.1
1970	4,402	4,983	88.3	10,515	11,856	88.7
1971	4,737	5,331	88.3	10,563	12,014	87.9
1972	5,292	5,795	91.3	11,182	12,465	89.7
1973	5,822	6,432	90.5	11,636	12,983	89.6
1974	6,354	6,904	92.0	11,691	12,794	91.4
1975	6,701	7,419	90.3	11,201	12,508	89.6
1976	7,490	8,195	91.4	11,754	12,993	90.5
1977	8,236	9,058	90.9	12,146	13,463	90.2
1978	9,155	10,129	90.4	12,548	14,026	89.5
1979	10,075	11,169	90.2	12,810	14,215	90.1
1980	11,004	12,022	91.5	12,859	14,025	91.7
1981	11,943	13,293	89.8	12,747	14,147	90.1
1982	12,973	13,647	95.1	12,973	13,647	95.1
1983	13,998	14,537	96.3	13,406	13,996	95.8
1984	15,526	15,952	97.3	14,315	14,807	96.7
1985	16,738	16,798	99.6	14,954	15,110	99.0
1986	17,933	17,567	102.1	15,705	15,403	102.0

Source: Tables 1 and 2 and unpublished July 1 population estimates from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Measurement Division.

CENTER FOR PUBLIC SERVICE
2015 Ivy Road • Charlottesville, Virginia 22903

BULK RATE
U.S. POSTAGE PAID
PERMIT NO. 147
Non-Profit Organization
Charlottesville, Virginia

SRI Acquisitions
Congressional Information Service
4520 East-West Highway, Suite 800
Bethesda, Maryland 20814